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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,422	10/02/2003	Daniela T. Bratescu	15071US02	8452
23446 7590 11/30/2007 MCANDREWS HELD & MALLOY, LTD 500 WEST MADISON STREET SUITE 3400 CHICAGO, IL 60661				
			EXAMINER SOROUSH, ALI	
			ART UNIT 1616	PAPER NUMBER
			MAIL DATE 11/30/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/677,422

Applicant(s)

BRATESCU ET AL.

Examiner

Ali Soroush

Art Unit

1616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 7, 8, 10-13 and 24-33 is/are pending in the application.
- 4a) Of the above claim(s) 7, 25 and 27-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8, 10-13, 24, 26 and 33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Acknowledgement of Receipt

Applicant's response filed on 09/05/2007 to the Office Action mailed on 05/08/2007 is acknowledged.

Status of the Claims

Claims 1-3, 8, 10-13, 24, and 26 have been amended, claim 33 is newly added, claims 4-6, 9, and 14-23 have been cancelled, and claims 7, 25, and 27- 32 are withdrawn. Therefore, claims 1-3, 8, 10-13, 24, 26, and 33 are currently pending examination for patentability.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Applicant Claims
2. Determining the scope and contents of the prior art.
3. Ascertaining the differences between the prior art and the claims at issue; and resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Rejection of claims 1-3, 8, 10-13, 24, and 26 under 35 U.S.C. 103(a) as being unpatentable over Wierenga et al. (US Patent 5965514, Published 10/12/1999) is **maintained**.

Applicant Claims

Applicant claims an antimicrobial composition comprising a surfactant blend and water. The surfactant blend consists essentially of an antimicrobial compound (i.e. alkyl trimethyl ammonium compound), an anionic surfactant (i.e. alkyl sulfate), a bridging surfactant (i.e. amine oxide), and optionally a cationic surfactant (i.e. alkyl trimethyl ammonium compound).

Determination of the Scope and Content of the Prior Art (MPEP §2141.01)

Wierenga et al. teach, a "Concentrated mildly acidic hard surface cleaning composition having superior combination of cleaning and disinfecting, comprise by weight of concentrated composition: from about 0.5 % to about 40% amine oxide detergent; from about 0 to 4% nitrogen-containing chelating agent; and from about 1 to about 30% quaternary disinfectant." (See abstract). "The amine oxide preferably has the formula $RR'R''NO$, where R is a substituted or unsubstituted alkyl or alkene group containing about 8 to about 30, preferably from about 8 to about 18 carbon atoms ..." (See column 5, Lines 41-44). "Groups R' and R" are each substituted or unsubstituted alkyl or alkene groups containing about 1 to about 18, preferably from about 1 to about 4, carbon atoms." (See column 5, Lines 51-54). "The compositions contain at least one water miscible quat ..." (See column 6, Lines 24-25). "The preferred quaternary ammonium disinfectant has the formula: $[R_1R_2R_3R_4N]^+X^-$..." (See column 6, Lines 30-

33). "Example of suitable quaternary ammonium disinfectants include ... didecyl dimethyl ammonium chloride ..." (See column 6, Lines 44-46). Wierenga et al. further teach, "It has been surprisingly discovered that disinfectancy can be restored ... by reducing the surface tension of the liquid formula." (See column 10, Lines 66-67 and column 11, Lines 1-3). "Any number of suitable surface tension reducing agents such as solvents, surfactants ... may be added to the composition." (See column 11, Lines 14-16). "Only small amounts of surface tension reducing agent are required, e.g. from 0.005 to 2% by weight of the concentrated compositions ..." (See column 11, Lines 44-47). "A compatible surface tension reducing adjunct surfactant can be selected from anionic, nonionic, and zwitterionic surfactants." (See column 12, Lines 3-6). "Suitable adjunct surfactants can include the alkyl- and alkylethoxylated-(polyethoxylate) sulfates, paraffin sulfonates, olefin sulfonates, ... alpha-sulfonates of fatty acids and of fatty acid ester, and the like. In general the detergent surfactants contain an alkyl group in the C₆-C₁₈ range." (See column 12, Lines 10-16). Wierenga et al. also teach, "The composition herein are employed on hard surfaces in liquid form. Accordingly, the foregoing components are admixed with an aqueous carrier liquid." (See column 12, Lines 51-53). "Preferably, the aqueous carrier liquid is water ..." (See column 13, Line 1). "The combined amine oxide, surfactant, quat disinfectant, low surface tension and mildly acidic pH provides superior disinfecting properties without cleaning negatives ... The composition when diluted, has quat level from about 50 to about 1500, with a target use level of from about 500 to about 700 ppm for disinfectancy and of from about 50 to about 250 ppm for sanitizing ..." (See column 6, Lines 51-59).

***Ascertainment of the Difference Between Scope of the Prior Art and the Claims
(MPEP §2141.012)***

Wierenga et al. differs from the instantly claimed invention in that it discloses anionic surfactants in a list of possible agents to be used as a surface tension reducing agent in the composition. However, Wierenga et al. makes such a combination obvious. Further, Wierenga et al. differs from the instantly claimed invention in that it optionally comprises multiple quaternary ammonium compounds to be included in the composition, but none of the compounds are described as cationic surfactants. Wierenga et al makes obvious the use of multiple quaternary ammonium disinfectants, which can act as cationic surfactants.

***Finding of Prima Facie Obviousness Rational and Motivation
(MPEP §2142-2143)***

It would have been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to add an anionic surfactant to the cleaning composition taught by Wierenga et al. One would have been motivated to do this because Wierenga et al. teach that the addition of an anionic surfactant would reduce the surface tension of liquid formulation. This would then force "more quat disinfectant to the surface of the bacterium to overcome the 'blocking' effect of the protonated amine oxide." (See column 11, Lines 4-6). The addition of an anionic surfactant would provide a composition that has combined concentration of quaternary ammonium, anionic surfactant, and amine oxide (bridging surfactant) from about 1.505 to about 72% by weight. Therefore, one would add an anionic surfactant to the composition taught by Wierenga et al. in order to provide for a more effective disinfecting solution. It would have been obvious to one of

ordinary skill in the art at the time of the instantly claimed invention to add a second quaternary ammonium compound to the composition. One would have been motivated to do this because the addition of a second quaternary ammonium composition would increase the amount of disinfectant available for cleaning. Although Wierenga et al. do not teach the quaternary ammonium compound to be a cationic surfactant the compound has the same structure as the instantly claimed cationic surfactant. Therefore, the quaternary ammonium disinfectant of Wierenga et al. would also inherently be a cationic surfactant. The examiner respectfully points out the following from MPEP 2112: "The discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer." *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). Thus the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). In *In re Crish*, 393 F.3d 1253, 1258, 73 USPQ2d 1364, 1368 (Fed. Cir. 2004), the court stated that "just as the discovery of properties of a known material does not make it novel, the identification and characterization of a prior art material also does not make it novel." Therefore, one would add a second quaternary ammonium to the composition of quaternary ammonium, amine oxide, and an anionic surfactant to provide for an elevated disinfecting formula. Examiner notes the use of "consisting essentially of" language in claims 1-3 and 26. However, the examiner has construed "consisting essentially of" to be equivalent to "comprising" for purposes of

applying prior art. Examiner points to MPEP 2111.03: "For the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, 'consisting essentially of' will be construed as equivalent to 'comprising.' See, e.g., PPG, 156 F.3d at 1355, 48 USPQ2d at 1355 ('PPG could have defined the scope of the phrase consisting essentially of' for purposes of its patent by making clear in its specification what it regarded as constituting a material change in the basic and novel characteristics of the invention.'). See also AK Steel Corp. v. Sollac, 344 F.3d 1234, 1240-41, 68 USPQ2d 1280, 1283-84 (Fed. Cir. 2003)." For the foregoing reasons the instantly claimed antimicrobial composition would have been obvious to one of ordinary skill in the art at the time of the instantly claimed invention.

Response to Applicant's Arguments

Applicant argues that Wierenga et al. lacks a teaching where the formation of a complex between the amine oxide, antimicrobial compound, and the anionic surfactant is made. Applicant argues that the mode of action taught by Weirenga et al. for the third component (i.e. surface tension reducer) of the composition is to reduce the surface tension of the formulation and therefore increases the antimicrobial activity of the antimicrobial compound. Applicant further argues that Weirenga et al. teaches that the amine oxide should be "at least 10% protonated" in the formulation and this would therefore preclude the formation of such a complex. Applicant's arguments have been fully considered and found not to be persuasive.

Applicant's argument that Weirenga et al. lacks a teaching of the formation of a complex between the amine oxide, antimicrobial compound, and the anionic surfactant is not persuasive because such a complex is implicit to the formulation taught by Weirenga et al. For example, the composition taught in Table IV includes an amine oxide, a quaternary ammonium, and poly-tergent CS-1 (an anionic surfactant) and is shown to have antimicrobial activity against *Staphylococcus aureus* and *Pseudomonas aeruginosa*. Therefore, it would be implicit that a complex is formed wherein the antimicrobial activity is retained (See column 16, Comp. Ex. 1). Applicant's argument that the teachings of Weirenga et al. preclude such a complex from forming is not convincing. The protonation of amine oxide does not necessarily imply that the strength of its charge would cause it to repel from the quaternary ammonium antimicrobial compound. Even assuming arguendo, that it is the case that a protonated amine oxide would repel from quaternary ammonium, Weirenga et al. teach a formulation that is "at least 10% protonated" which implies that formulations of up to 90% un-protonated amine oxide is present. One would be motivated to keep the level of protonation to a minimum because Weirenga et al. teach that protonated amine oxide compete for binding sites on the cell wall of the bacteria and therefore reduces the disinfectancy of the formulation (See column 10, Lines 66-67 and column 11, 1-6). These amine oxides would therefore implicitly form complexes that retain the antimicrobial activity of the quaternary ammonium. This is further supported by the teachings described in Table IV, where antimicrobial activity is seen with such a formulation. For the foregoing reasons, the rejection of claims 1-3, 8, 10-13, 24, and 26 under 35 U.S.C. 103(a) is maintained.

New Grounds of Rejection

1. Newly added claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wierenga et al. (US Patent 5965514, Published 10/12/1999).

Applicant Claims

Applicant claims an antimicrobial composition comprising a surfactant blend and water. The surfactant blend consists essentially of an antimicrobial compound (i.e. alkyl trimethyl ammonium compound), an anionic surfactant (i.e. alkyl sulfate), a bridging surfactant (i.e. amine oxide), and optionally a cationic surfactant (i.e. alkyl trimethyl ammonium compound).

Determination of the Scope and Content of the Prior Art (MPEP §2141.01)

The teachings of Weirenga et al. are disclosed above.

Ascertainment of the Difference Between Scope of the Prior Art and the Claims (MPEP §2141.012)

Weirenga et al. teaches the surfactant blend components but does not anticipate a teaching of the surfactant blend having the specific molar ratio of 1:1:1 as instantly claimed. Weirenga et al. however does make such a molar ratio obvious.

Finding of Prima Facie Obviousness Rational and Motivation (MPEP §2142-2143)

It would have been obvious to one of ordinary skill in the art to formulate a surfactant blend having a molar ratio of the three components being 1:1:1. One would have been motivated through routine optimization to arrive at such a formulation. For the foregoing reasons the instantly claimed invention would have been obvious to one of ordinary skill in the art at the time of the instant invention.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ali Soroush whose telephone number is (571) 272-9925. The examiner can normally be reached on Monday through Thursday 8:30am to 5:00pm E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Johann Richter can be reached on (571) 272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

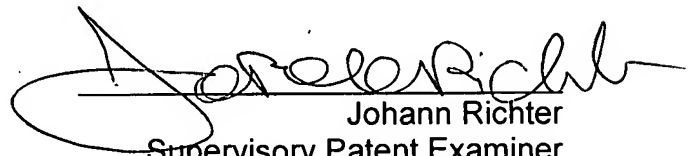
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Ali Soroush
Patent Examiner
Art Unit: 1616



Johann Richter
Supervisory Patent Examiner
Technology Center 1600